AMENDMENTS TO THE CLAIMS

For the Examiner's convenience, all pending claims are set forth below and have been amended where noted:

1) (Previously Presented) A particulate stripping unit with a self-stripping disengagement feature for separating particulates from a carrier fluid, comprising:

a vessel having a cyclone section and a stripping section, the stripping section having a cross sectional area less than a cross-sectional area of the cyclone section;

an inlet to tangentially feed a particulate-fluid suspension to the cyclone section;

a cylindrical surface within the cyclone section to separate a major fraction of the particulates from the suspension and form a vortex of reduced particulate content;

a particulate discharge outlet from the cyclone section to the stripping section;

a plurality of apertures disposed through a lower portion of the stripping section; and

a discharge line from the cyclone section in communication with the vortex.

2) (Canceled)

3) (Canceled)

4) (Currently Amended) The ~~particle~~ particulate stripping unit of claim 1, further comprising a thermal expansion joint disposed on the discharge line from the cyclone section.

5) (Currently Amended) The ~~particle~~ particulate stripping unit of claim 1, further comprising a stabilizer disposed between the vortex and the stripping section, the stabilizer comprising one or more annular passages disposed therethrough.

6) (Currently Amended) The ~~particle~~ particulate stripping unit of claim 1, wherein the inlet is connected to a fluidized catalytic cracking (FCC) riser.

7) (Canceled)

8) (Canceled)

9) (Canceled)

10) (Canceled)

11) (Canceled)

12) (Canceled)

13) (Canceled)

14) (Canceled)

15) (Canceled)

16) (Canceled)

17) (Canceled)

18) (Canceled)

19) (Canceled)

20) (Canceled)

21) (Previously Presented) A method for stripping vapor from a suspension of particulates in a carrier gas, comprising:

separating particulates from the suspension in a separation zone having a first cross-sectional area to form a particulate-rich stream with entrained vapor and a vapor stream lean in suspended matter;

introducing a stripping fluid through a plurality of apertures formed through a lower exterior wall of a stripping zone disposed below the separation zone, the stripping

zone having a second cross-sectional area less than the first cross-sectional area of the separation zone;

passing the particulate-rich stream from the separation zone through the stripping zone, making countercurrent contact with the stripping fluid to remove at least a portion of the entrained vapor, and into a dipleg in communication with the stripping zone; and

recovering stripped particulates from the dipleg.

22) (Previously Presented) The method of claim 21 wherein the stripping zone is in fluid communication with the separation zone via an annular passage defined by an outside diameter of a stabilizer and an interior wall of the stripping zone.

23) (Currently Amended) A method for retrofitting an existing cyclone to a self-stripping cyclone, wherein the existing cyclone is housed within a pressurized vessel to receive a vapor-solid suspension and separate the suspension into a solids-rich stream and a solids-lean stream, the existing cyclone has a sealed lower discharge to pass the particulates into the pressurized vessel, and the existing cyclone is connected to a plenum in communication with an exterior of the pressurized vessel to recover the solids-lean stream, the method comprising:

installing a new section beneath the existing cyclone to provide a stripping zone in communication with the existing cyclone, wherein the new section has a cross-sectional area less than a cross-sectional area of the existing cyclone and a plurality of apertures formed through a lower portion of the stripping zone ~~therethrough~~ to introduce a stripping fluid into the stripping zone; and .

replacing the unsealed joint with a sealed joint, if the plenum of the existing cyclone comprises an unsealed joint.

24) (Previously Presented) The method of claim 23, wherein the new section comprises a vortex stabilizer wherein the vortex stabilizer and an interior wall of the cyclone define an annular passage therebetween.

25) (Previously Presented) An apparatus for separating particulates from a carrier fluid, comprising:

an upper section with a first cross-sectional area;

a lower section with a second cross-sectional area;

a conical member disposed within the lower section and mounted coaxially along a longitudinal centerline of the lower section thereby forming one or more passages therebetween;

a tangential inlet adapted to feed a particulate-fluid suspension to the upper section wherein at least a portion of the upper section has a cylindrical surface to separate a major fraction of the particulates from the suspension and form a vortex of reduced particulate content; and

the lower section comprising a lower surface having a plurality of apertures formed therethrough.

26) (Previously Presented) The apparatus of claim 25 wherein the first cross-sectional area is greater than the second cross sectional area.

27) (Previously Presented) The apparatus of claim 25 wherein a tapered transition section is disposed between the upper section and the lower section.

28) (Previously Presented) The apparatus of claim 25 wherein the conical member comprises an apex disposed toward the upper section and a base defining one or more passages with an inner wall of the lower section.

29) (Currently Amended) A method for stripping particulates from a particulate-fluid suspension comprising:

introducing a particulate-fluid suspension to a vessel comprising:

an upper section with a first cross-sectional area;

a lower section with a second cross-sectional area;

a conical member ~~dispersed~~ disposed within the lower section and mounted coaxially along a longitudinal centerline of the lower section thereby forming one or more passages therebetween;

a tangential inlet to feed a particulate-fluid suspension to the upper section wherein at least a portion of the upper section has a cylindrical surface to separate a major fraction of the particulates from the suspension and form a vortex of reduced particulate content; and

the lower section comprising a lower surface having a plurality of apertures formed therethrough;

separating particulates from the particulate-fluid suspension using the cylindrical surface within the upper section thereby forming a vortex of reduced particulate content;

settling the separated particulates into the lower section; and

introducing a fluid through the plurality of apertures in the lower surface of the lower section.

30) (Previously Presented) The method of claim 29, wherein a solids flux rate in the lower section is about 24 kilograms per square meter to about 440 kilograms per square meter of stripping section cross-sectional area per second.

31) (Previously Presented) The method of claim 29, wherein a superficial velocity of the fluid passing through the lower section is about 0.1 to about 5.0 meters per second.

32) (Previously Presented) The method of claim 29, wherein a velocity of the stripping fluid through the plurality of openings is about 9 to about 90 meters per second.

33) (Previously Presented) The method of claim 29, wherein the particulate-fluid suspension is a fluidized catalytic cracker riser stream containing hydrocarbon gas and particulates.

Applicant believes that no new matter has been added with these amendments.